

- 2) optionally generating single stranded regions at the end of said fragment chains, wherein said single stranded regions are complementary to the single stranded regions on said fragment chains thus forming complementary pairs of single stranded regions;
- 3) contacting said fragment chains with one another, simultaneously or consecutively, to effect binding of said complementary pairs of single stranded regions.

11. (Amended) A nucleic acid molecule produced according to a method as defined in claim 1, 2 or 3, or a single stranded nucleic acid molecule thereof.

12. (Amended) A method of identifying the code elements contained in a nucleic acid molecule prepared according to a method as defined in claim 1, 2 or 3, wherein a probe, carrying a signaling means, specific to one or more code elements, is bound to said nucleic acid molecule and a signal generated by said signalling means is detected, whereby said one or more code elements may be identified.

13. (Amended) A library of fragments as defined in claim 1, 2 or 3, comprising  $(n)_m$  fragments, wherein  $n$  is as defined in claim 1, 2 or 3 and corresponds to the length of chain that said library may produce, and  $m$  is an integer corresponding to the number of possible code elements or combinations thereof, such that fragments corresponding to all possible code elements for each position in the final chain are provided.

#### IN THE ABSTRACT

Please add the following abstract on the accompanying separate sheet.